

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### SuperArray Bioscience Corporation

#### Maryland Technology Extension Service

#### Superarray Bioscience Corporation Is On The Cutting Edge Of Laser Technology

**Client Profile:**

SuperArray Bioscience Corporation is located in Frederick, Maryland. The 12-employee company produces cutting-edge gene array technology that is easy to use and cost effective.

**Situation:**

SuperArray wanted the ability to accurately cut thin nylon membrane sheets containing cDNA fragments into 25 predetermined rectangles, preferably several sheets at the same time. While this process appears simple, the difficulty lay in the fact that the sheets cannot rub against each other prior to or during the cutting operation or the deposited gene fragments will be damaged. The company was cutting each sheet manually. It asked the Maryland Technology Extension Service (MTES), a NIST MEP network affiliate, to help develop a solution.

**Solution:**

MTES researched the available equipment needed for the job and determined that SuperArray needed the 25 panels be cut out without leaving any fill. MTES contacted several machine shops with a request to fabricate a special die cutter for the job, but was told that a die cutter would not work for this task. Finally, MTES discovered a laser cutting technique that could probably be used to cut the sheets without leaving any fill. After a trial, MTES evaluated the results; the cut-outs were precise and the edges smooth, and the ancillary fumes created during the cutting process had no effect on the deposited DNA. SuperArray now outsources this task to the companies that own the lasers.

**Results:**

Discovered an automated laser cutting system and outsourced the task.  
Saving approximately \$11,000 per year.  
Increasing annual sales by \$5,000.

**Testimonial:**

"SuperArray Bioscience Corporation has benefited a great deal from the Maryland Technology Extension Service program. With [its] expert service in engineering and lean production, we have improved our productivity in [the] manufactur[ing]

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process. The MTES program is a valuable technical resource that a biotech company like SuperArray can count on."

Dr. Sean Yu, Vice President - Operations